

CLAIMS

What is claimed is:

1. A tread has an equatorial centerplane CP and a plurality of tread elements, the tread element being oriented into a first shoulder row, a second shoulder row and a central array of tread elements, the tread characterized in that:

each central array forms a repeating pattern of tread elements wherein each array has at least five tread elements distinct in size, shape or orientation relative to adjacent tread elements, the array extends from a first end adjacent the first shoulder row or the second shoulder row crossing the equatorial centerplane CP to a second end adjacent the opposite shoulder row, each array has a centerline L inclined less than 45° relative to the equatorial center plane of the tread, the centerline L passes through the first and second ends at circumferential extremes of the array.

2. The tread of Claim 1 wherein each array has at least 10 tread elements forming the repeating pattern.

3. The tread of Claim 2 wherein each array has fifteen or more tread elements forming the repeating pattern.

4. The tread of Claim 1 wherein each array is spaced from an adjacent array by a first boundary groove and a second boundary groove extending from the first shoulder row of tread elements and the second row of tread elements respectively, the first boundary groove and second boundary groove intersecting at circumferential extremes of the array.

5. The tread of Claim 4 wherein the tread is pitched including three or more distinct pitch lengths arranged in a noise reducing sequence and each array extends circumferentially across at least one or more pitches.

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6. The tread of Claim 1 wherein each array forms a large distinctive repeating mosaic shape formed by many smaller tread elements of different sizes, shapes or orientation.

7. The tread of Claim 1 wherein the centerline L of the array is inclined circumferentially less than 30° relative to the equatorial centerplane CP.

8. The tread of Claim 1 wherein the tread pattern is symmetrical and circumferentially adjacent the central arrays are turned oppositely but inclined similarly.

9. The tread of Claim 1 wherein the tread pattern is asymmetric wherein the circumferentially adjacent central arrays are the same and oriented equally.

10. The method of designing a tread pattern for a tire having a contact patch having a length L comprises the steps of forming large elongated pattern for the central area of a tread having a length, the length L_A of the large elongated pattern being established about equal to the length of the contact patch of the tire;

orienting a centerline L of the large elongated pattern at an angle of 30° or less relative to the equatorial centerplane CP;

replicating the large elongated pattern forming a circumferential row of large elongated patterns spaced by boundary grooves;

outlining the large elongated patterns of the central area forming shoulder areas;

dividing the central area large elongated patterns into many individual blocks of tread elements; and

dividing each shoulder area into individual blocks of tread elements
outlining the elongated tread pattern.

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